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09/731,066	12/06/2000	Christopher P. Townsend	1024-034	1286
26542	7590	09/14/2005	EXAMINER	
JAMES MARC LEAS 37 BUTLER DRIVE S. BURLINGTON, VT 05403			RIMELL, SAMUEL G	
			ART UNIT	PAPER NUMBER
			2165	

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/731,066	<b>Applicant(s)</b> TOWNSEND ET AL.	
	<b>Examiner</b> Sam Rimell	<b>Art Unit</b> 2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26,28-30,32,34,35,38-54 and 56-77 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26,28-30,32,34-35,38-54 and 56-77 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.



**SAM RIMELL  
PRIMARY EXAMINER**

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-5, 17, 39, 45 and 65 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2: The claim states that each sensor comprises all 20 of the different sensor options, which is not physically possible for any one given sensor. The claim should states that the sensor “comprises one of...” and then list the sensor options.

Claim 3-4 Depend on claim 2.

Claim 5: The word “accelerometer” is repeated, rendering the claim confusing.

Claim 17: The phrase “one or more from the group consisting of” is indefinite and an improper form of the standard Markush grouping (MPEP 2173.05(h)). The phrase should read “one from the group consisting of”. The phrase “or and” is indefinite. Individual groups of a Markush grouping should be separated by an “and”.

Claim 39: In part (d), the phrase “said data receiving device” is indefinite since there are first and second data receiving devices.

Claim 45: The phrases “or and” and “or to and” are indefinite and confusing. These phrases should be deleted.

Claim 65: Claim 65 calls for the function of a user operating on the host computer, but since the host computer is not claimed as being configured to accept user input, it is not clear how this function could be achieved.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10, 12-16, 21-26, 28-30 and 34-35, 38-54 and 56-77 are rejected under 35 U.S.C. 102(e) as being anticipated by Agre et al. (U.S. Patent 6,208,247).

Claim 1: Agre et al. discloses a sensing unit (FIG 3). As seen in FIG. 3, the sensing unit comprises one or more sensors (12), a first data storage device (16, 21), a transmitting/receiving device (22-FIG. 9 further illustrates the separate transmitter and receiver devices of the transceiver).

The signals transmitted from the sensing unit can be transmitted to another sensing unit (col. 2, line 43). Thus, another sensing unit can read as the claimed control unit and include a second data transmitting/receiving device (22 in FIG. 3 and FIG. 9) and second data storage device (16, 21). The sensing unit is configured so that a real time signal sent to the sensing unit can trigger a change in data handling (col. 9, lines 42-65, a signal to the microprocessor in the sensing unit can trigger a change to cause increased data acquisition). The remaining changes are alternatively recited.

Claim 2: The sensor can include an accelerometer (col. 3, line 16).

Claim 3: Given that the sensor can be an accelerometer, reference numeral 12 in FIG. 12 teaches that the sensor can be array of sensors, such as an array of accelerometers.

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Claims 4-5: The sensor can be an accelerometer (col. 3, line 16). Col. 3, lines 14-20 allow for the usage of any type of sensor, provided that it is small and consumes little power. Thus, linear accelerometers are encompassed by this teaching.

Claims 6-9: Claims 6-9 are addressed entirely to intended usages and intended attachments for the sensing unit which are only recited functionally. Accordingly, these intended usages and attachments are attributed no patentable weight.

Claim 10: FIG. 1 the sensing unit of FIG. 3 in a sealed housing.

Claim 12: An antenna (4) extends out of the housing and is connected to the transceiver (22).

Claim 13: The sensing unit includes microprocessor (20).

Claim 14: The microprocessor (20) is part of the sensing unit and is connected to the receiving/transmitting devices (22 in FIG. 3 and FIG. 9) and storage devices (16, 21).

Claim 15: The microprocessor communicates with triggering device (19).

Claim 16: The sensor unit includes power supply (3).

Claim 21: The sensing unit has an RF transceiver which is wireless (22; also FIG., 9 and see col. 3, line 54).

Claim 22: The transceiver (22) is a transmitting device (22, and also FIG. 9).

Claim 23-24: The sensing unit includes a clock (internal timer—col. 10, line 34). The control unit (a different one of the sensing units) includes a time reference (a schedule—col. 10, line 32). The second transmitting device (the transmitting device of the control unit) is capable of sending a timing signal (a frame synch slice—col. 10 line 33) for synchronizing the clock (internal timer—col. 10, line 34).

Claim 25: The first storage devices (16, 21) can receive and record the instruction signals.

Claim 26: The first storage devices (16, 21) continually record data.

Claims 28-29: The first storage devices are controlled by the data received by the sensor in that the storage devices will receive new types of data if a specific data threshold is detected. Col. 9, lines 42-65 outline a procedure in which the detection of data having a certain threshold value will trigger the microprocessor to change the profile of data being collected, and order new types of data to be collected and saved in the in the storage devices for possible transmission to another node in the system.

Claims 30: In FIG. 3, the communication line between the threshold comparators (19) and the memory (21) read as a feedback device.

Claim 34: The data storage devices are part of a computer.

Claim 35: See col. 9, lines 42-65.

Claim 38: Col. 9, line 45 describes a scenario where a sensing unit transmits a warning signal to other sensing units. This discloses the concepts of multiple sensing units, as well as transmitting address information, since each warning signal is sent to a particular address (a particular sensing unit).

Claim 39: See remarks for claim 1.

Claim 40: See remarks for claim 1.

Claim 41: The signals transmitted from the sensing unit (FIG. 1) can be transmitted to another sensing unit (col. 2, line 43; col. 5, line 55; col. 11, lines 30-58). Thus, another sensing

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unit can read as the claimed control unit and include a second transmitter/receiver (22) and second data storage devices (16, 21).

Claim 42: As described with respect to claim 41, the control unit is simply another sensing unit in the network of sensing units. The control unit can send out a frame synch slice (col. 10, lines 30-32) to activate other sensing units. The frame synch slice is readable as address information since it is information sent other nodes (other addresses in the network).

Claim 43: The control unit must inherently provide an address when sending a signal to a destination node to a destination node, such as the signal described with respect to claim 42. The communication sent to destination node reads as a query.

Claim 44: The transmitting/receiving device is (22). Col. 10, lines 30-37 call for each node to transmit data items known as “frame synch slices” so that all of the nodes operate in synchronization. Each node can listen for a frame synch slice (col. 10, line 32) or transmit the frame synch slice (FIG. 7, steps 92-93). The frame synch slice is a timing signal.

Claim 45: The microprocessor (20) within each sensing unit can activate that sensing unit (col. 3, lines 34-38).

Claim 46: Each node further includes a signal conditioner (17, 80, 19), an A/D converter (14) and a clock (col. 7, lines 40-41).

Claim 47: The first data storage device (16, 21) is connected to the first transmitting device. No patentable weight is attributed to the recited intended use.

Claim 48: The transmitters (22) are all wireless transmitters.

Claim 49: See FIG. 3, structure (19) for the triggering device.

Claim 50: See remarks for claim 1.

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Claim 51-52: See remarks for claim 42.

Claim 53: See remarks for claim 43.

Claim 54: The microprocessor (20) within each sensing unit can activate that sensing unit (col. 9, lines 42-44). The claim is not limited to all of the recited alternatives, by reason that they alternatives rather than mandatory features.

Claim 56: See remarks for claim 46.

Claim 57: The microprocessor (20) controls storage in the storage devices (16, 21).

Claim 58: The transmitting/receiving device (22) can transmit data to another node. The other node is readable as the claimed control unit.

Claim 59: The control unit includes second transmitting/receiving device (22) and second storage devices (16, 21) which respectively receive and store data.

Claim 60: See remarks for claim 48.

Claim 61: See remarks for claim 28-29.

Claim 62: Sensed data can trigger transmissions to other nodes, such as a warning to other nodes (col. 9, lines 42-45). The control unit is one of the other nodes.

Claim 63: Col. 9, lines 61-62 states that the incoming signal (also described at col. 9, lines 42-43) is compared against a threshold profile. The result of the incoming signal can be the transmission of a warning signal to other nodes (col. 9, line 45).

Claim 64: The microprocessor (20) of each sensing unit is a host computer. The control unit is one of the sensing units.

Claim 65: FIG. 3 shows a user (34) who is capable of communicating with the host computer (20).



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Claim 66: FIG. 3 illustrates a triggering device (19).

Claim 67: See remarks for claim 62.

Claim 68: See remarks for claim 63.

Claims 69-70: Col. 3, lines 14-20 allow for the usage of any type of sensor, provided it is small and consumes little power. Thus, angular accelerometers are encompassed by this teaching. Col. 6, line 45 teaches that the sensor may be of the piezoelectric type, while col. 3, line 16 teaches that the sensor may be an accelerometer.

Claim 71: FIG. 3 structure (19) is a triggering device. No patentable weight is attributed to the intended usage of the device. The triggering device is controlled by data inputs (16, 17, 80 in FIG. 3).

Claim 72: See remarks for claims 23-24.

Claim 73: FIG. 3 illustrates a triggering device (19) and which transmits trigger signals (83). Agre et al. also discloses other types of trigger signals transmitted, such as the frame synch slice (col. 10, lines 30-38). In this instance, the triggering device is another sensing unit.

Claim 74: Either signal (83) in FIG. 3 or the frame synch slice (col. 10, lines 30-38) are readable as the received trigger signal.

Claim 75: The detection of an incoming signal can trigger the transmission of warning signals to other sensor devices (col. 9, lines 42-45).

Claim 76: See remarks for claim 63.

Claim 77: The data storage devices receive and record data from the sensors. In this sense, they are controlled by the sensor.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agre et al. (U.S. Patent 6,208,247).

Claim 11: Agre et al. differs from claim 11 in that it does not recite the material used to form the housing. However, forming the housing from well known durable materials would have been obvious to one of ordinary skill in the art as a choice of well known materials.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agre et al. (U.S. Patent 6,208,247) in view of Fischell (U.S. Patent 4,096,866).

Claims 17-20: Agre et al. differs from the claims in that it does not disclose the as being rechargeable or by recharging the batteries via inductive coupling. Col. 2, lines 17-22 of Fischell teach that batteries contained in a sealed enclosure can be recharged by the usage of inductive coupling, without opening up the container. It would have been obvious to one of ordinary skill

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in the art to modify Agre et al. to deploy rechargeable batteries which are rechargeable by inductive coupling so as to eliminate the need to physically open up the housing to replace the batteries as taught by Fischell.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agre et al. (U.S. Patent 6,208,247) in view of Julien et al. (U.S. Patent 5,005,678).

Claims 32: Agre et al. discloses devices capable of sensing and measuring vibration (col. 6, lines 64-65; col. 3, lines 14-20). Agre et al. also discloses that sensors can be used for monitoring the status of an industrial process or a physical change in a condition. (col. 4, lines 55-57). Agre et al. differs from claims 32-33 in that it does not disclose active damping elements which act in response to measured vibration. Julien et al. teaches that in the industrial process of moving a satellite optical system (col. 1, lines 19-25), sensors may detect vibration and active damping elements may reduce or eliminate the detected vibration. It would have been obvious to one of ordinary skill in the art to modify Agre et al. to further include sensors for sensing excessive vibration and active damping to reduce or eliminate detected vibrations in an industrial process as taught by Julien et al.

#### Remarks

Claims 2-5 remain rejected under 35 USC 112, second paragraph. Claims 17, 39, 45 and 65 have been amended so as to raise additional grounds of rejection under 35 USC 112, second paragraph.

In consideration of the Agre et al. prior art, applicant's primary argument is that the Agre et al. prior art does not teach a triggering device or triggering signals to trigger transmissions. These arguments have been considered, but are not believed to be correct. Agre et al. teaches

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several different triggering devices, such as the triggering device (19) which sends trigger signal (83) and other sensing units which act as triggering devices by transmitting signals to wake up the microprocessor (col. 9, lines 42-53). Both types of signals can initiate a transmission to other sensing devices, such as sending a warning signal to other sensing devices (col. 9, line 45). Signals received from the triggering device (19) are compared against a triggering profile (col. 9, lines 61-62) to determine whether to send signals to the microprocessor to take certain actions, such as warning the other nodes. Alternatively, detected signals detected from other sensors can trigger the transmission of warning signals to other nodes. In either case, the feature of triggering signals are taught by Agre et al.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication should be directed to Sam Rimell at telephone number (571) 272-4084.

A handwritten signature in black ink, appearing to read 'Sam Rimell', is positioned above the printed name.

Sam Rimell  
Primary Examiner  
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